November 18, 1999 A1-230

Routers

Network Expansion for UniFireNet™

Section: Integrated Systems

GENERAL

NOTIFIER provides a wide selection of UL listed network routers, featuring **ROUTMB** Intelligent Routers and **4WRMB** Physical Layer Repeaters. They work with the **UniFireNet™** Graphical Monitoring System and the **Building Communications Interface** (**BCI**) product lines. All UniFireNet components are based on LonWorks™ technology.

Routers are integrated devices that connect two or four communications channels and route network messages between them. Routers support the installation of networks with hundreds of nodes.

Each router contains the transceiver and network communications software. It accepts and sends standard UniFireNet messages.

To provide reliable operation, router network connections are transformer isolated when Category 5 wire is used.

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MEA
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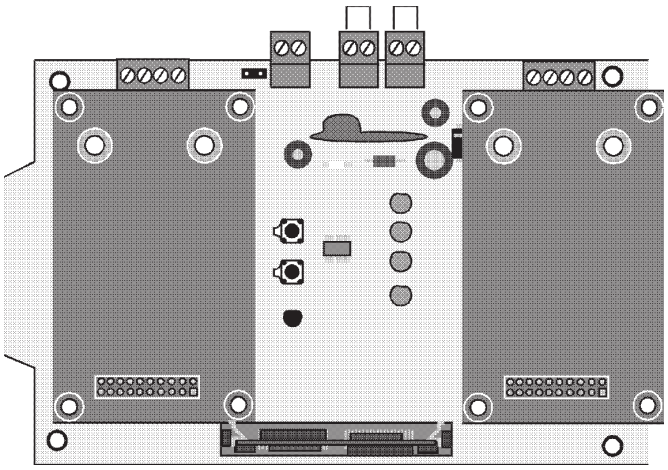
Vol. III

California State Fire Marshal
7300-1525:102



ROUTMB Intelligent Router

FEATURES

- Transparent multichannel support.
- Integrated package.
- Messages forwarded between two or four channels of the same or different media type.
- Unlimited number of network variables forwarded.
- Support FT-10 or fiber optic topology.
- Physical isolation between channels.
- Polarity-insensitive network connection (wire only).
- Packet LED indicates packet transfers between sides of the router.
- Transformer-coupled network connection for Category 5 wire.
- Standard wall-mount enclosures.
- Underwriters Laboratories listed as a component of a UL 864 Proprietary Receiving System.

APPLICATIONS

A basic UniFireNet network segment is of FT-10 topology type, which allows a network trunk length of 6,000 feet (1828.8 m), and a node count of 64 nodes. Routers are used wherever necessary to exceed the maximum network segment length or the maximum node count. UniFireNet routers can support two topology types: FT-10 and FO-10 fiber optic.

Installation of a unit allows an additional 6,000 foot (1828.8 m) segment and 64 nodes for an FT-10 bus. Each wire segment allows T-tapping of up to 64 nodes with a maximum distance of 1,500 feet (457.2 m) between any two nodes, or a maximum length of 8,000 feet (2438.4 m) when only one node is attached to the router on that segment. Fiber optic versions can run approximately 8,000 feet (2438.4 m) (12 dB of attenuation) point-to-point.

All router models fall into one of two categories: ***intelligent routers*** and ***physical layer repeaters***. Intelligent routers use routing tables to selectively forward messages based on the destination address, and logically rebuild each packet it forwards. Physical layer repeaters forward all packets exactly as received.

Category-5-wire router transceivers use a transformer to provide a high level of isolation from the twisted-pair channel. This provides excellent common-mode rejection and permits the system to operate in electrically noisy environments. It also reduces the susceptibility of the system to ground loops caused by the use of multiple power supplies floating relative to ground. This makes the transceivers ideal for industrial environments.

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This document is not intended to be used for installation purposes. We try to keep our product information up-to-date and accurate. We cannot cover all specific applications or anticipate all requirements. All specifications are subject to change without notice. For more information, contact **NOTIFIER.** Phone: (203) 484-7161 FAX: (203) 484-7118

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ISO-9001
Engineering and Manufacturing Quality System Certified to International Standard ISO-9001

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INTELLIGENT ROUTERS

The **ROUTMB** is a factory-programmable, protocol-regenerating, intelligent router. It allows transparent passage of network messages between two network segments of the same or different types.

Available network formats are: FT-10 wire and optical fiber, and FO-10 dual fiber.

The ROUTMB uses two transceivers to connect two network segments of the same or different types: FT-10 wire and optical fiber and FO-10 bidirectional fiber (maximum fiber attenuation of 12 dB). All transceivers are mounted to the motherboard using header strips.

Each transceiver is controlled via a LonWorks programmable router core module mounted on the motherboard. The router core is field programmable for one of the following applications:

- FT-10 wire to FT-10 wire
- FT-10 wire to FT-10 fiber
- FT-10 fiber to FT-10 fiber
- FT-10 wire to FO-10 fiber
- FT-10 fiber to FO-10 fiber

PHYSICAL LAYER REPEATERS

The **4WRMB** is a free-topology (star), physical layer repeater. It allows transparent passage of network messages between four FT-10 network segments.

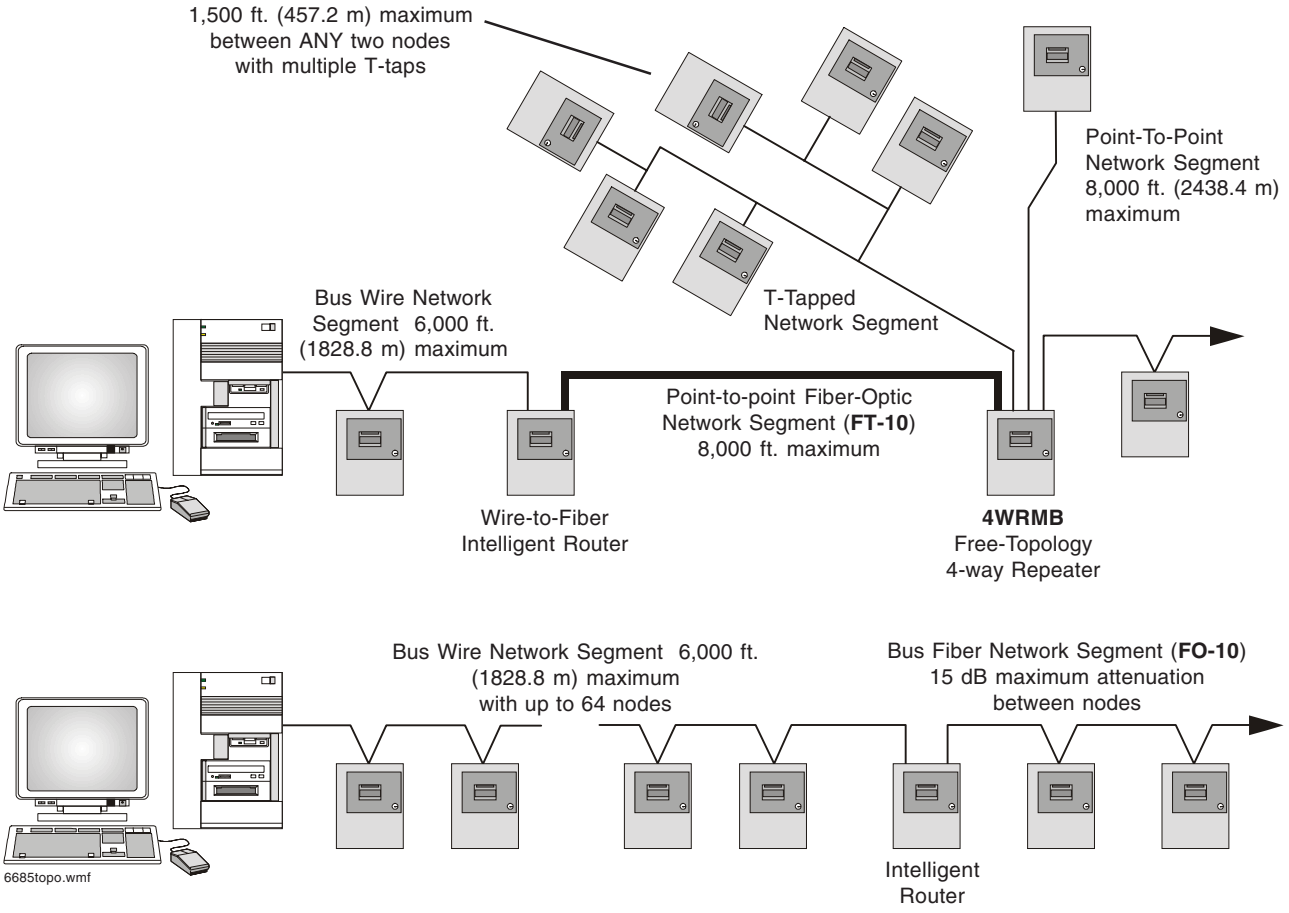
The 4WRMB uses LonWorks FT-10 transceivers (wire or fiber) to connect four network segments of the same type.

NOTE: *Only one 4WRMB can be placed between a node and a workstation on any segment without an intervening router.*

NETWORK ROUTER DIAGRAM

NOTES:

- Nodes include workstations, NIONs and routers.
- Routers count as a node on each network segment they connect.



INSTALLATION

UniFireNet routers use standard wall-mountable enclosures (**NISCAB-1**).

Network connections for the ROUTMB and 4WRMB are made via plug-in screw terminals for FT-10 wire operation. Fiber-optic network connections use ST®-style connectors with dedicated fiber optic cable.

UniFireNet routers require no field configuration.

Power can come from any regulated power supply UL-listed for use with fire protective signaling units.

SPECIFICATIONS

Common to both ROUTMB and 4WRMB:

- Listed to UL 864.
- **Communicates** on LonWorks-based network operating at 78.5 Kbaud over twisted-pair wiring.
- **Operating temperature range:** 0°C to 49°C (32°F to 120°F).
- 93% **humidity** non-condensing at 30°C (86°F).
- **LEDs:** network traffic and power.
- **Mounts** in standard enclosure (**NISCAB-1**): 9-1/4" (23.495 cm) wide x 12-1/4" (31.115 cm) high x 2-3/4" (6.985 cm) deep.

ROUTMB:

- **Power requirements:** 24 VDC @ 0.075 A.
- **FO-10** topology option *(bidirectional fiber)*.
- **FT-10** topology option *(wire)*.
- Point-to-point **fiber optic media option** with FT-10 (12 dB attenuation between nodes).
- **Transceiver type:** SMX (**FTXC**, **FOXC**, **DFXC**).
- **Processors:** two Neuron® 3150 chips *(one per channel)*.
- Optional **rack-mount** (**CHS-4L**) with **CAB-3 Series** enclosures.

4WRMB:

- **Power requirements:** 24 VDC @ 0.050 A.
- **FT-10** media.

Network Wire:

- Twisted pair.
- UL listed for use in a power-limited fire-detection system.
- Riser, plenum, or non-plenum, according to local fire alarm wiring codes.
- 24 AWG to 18 AWG.
- Solid.
- Category 5.
- Low capacitance (~15 pF/foot).

Network Fiber:

- Multimode.
- 62.5/125 µm.
- >15 dB attenuation.

ORDERING INFORMATION

- **ROUTMB** Intelligent router plus two SMX network transceivers.
- **4WRMB** Four-way repeater plus four SMX network transceivers.
- **SMX Network Transceivers:**

  FTXC — FT-10 wire

  FOXC — FT-10 fiber

  DFXC — FO-10 fiber*

**__NOT__ for use with the 4WRMB. Only __ONE__ DFXC can be used with each ROUTMB.*